

**MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY  
OPERATING PERMIT TECHNICAL REVIEW DOCUMENT**

**Permitting and Compliance Division  
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**NorthWestern Corporation  
Main Line #1  
40 East Broadway  
Butte, MT 59701**

The following table summarizes the air quality programs testing, monitoring, and reporting requirements applicable to this facility.

<b>Facility Compliance Requirements</b>	<b>Yes</b>	<b>No</b>	<b>Comments</b>
Source Tests Required	X		Method 9, Portable Analyzer
Ambient Monitoring Required		X	
COMS Required		X	
CEMS Required		X	
Schedule of Compliance Required		X	
Annual Compliance Certification	X		As Applicable
Monthly Reporting Required		X	
Quarterly Reporting Required		X	
Semi-Annual Reporting Required	X		As Applicable
<b>Applicable Air Quality Programs</b>			
ARM Subchapter 7 Preconstruction Permitting	X		Permit #2428-07
New Source Performance Standards (NSPS)	X		Subpart KKK
National Emission Standards for Hazardous Air Pollutants (NESHAPS)		X	Except for 40 CFR 61, Subpart M
Maximum Achievable Control Technology (MACT)		X	
Major New Source Review (NSR)		X	
Risk Management Plan Required (RMP)	X		Section V.C of TRD
Acid Rain Title IV		X	
State Implementation Plan (SIP)	X		General SIP

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## SECTION I. GENERAL INFORMATION

### A. Purpose

This document establishes the basis for the decisions made regarding the applicable requirements, monitoring plan, and compliance status of emissions units affected by the operating permit proposed for this facility. The document is intended for reference during review of the proposed permit by the EPA and the public. It is also intended to provide background information not included in the operating permit and to document issues that may become important during modifications or renewals of the operating permit. Conclusions in this document were based on information provided in the original operating permit application submitted on July 11, 1995, the application to include the addition of the 2,370-Hp Caterpillar compressor engine submitted on September 4, 2001, (OP#2428-01), and additional information submitted on October 23, 2001. In addition, NorthWestern Corporation (NorthWestern), as Montana Power Company (MPC), submitted additional information on March 6, 2002, regarding the applicability of 40 CFR Part 63, Subparts HH and HHH in order to secure the permit for Permit Application #OP2428-01. Information in this document is also based on information provided in the administrative amendment requests submitted by NorthWestern on October 15, 2002, February 11, 2003, and June 12, 2003.

### B. Facility Location

NorthWestern owns and operates the Main Line #1 facility near Cut Bank, Montana. This facility is located in the South ½ of Section 22, Township 33 North, Range 5 West in Glacier County, Montana. The general UTM coordinates are Zone 12, Easting: 408.3 km, Northing: 5353.8 km, and at an elevation of 3,840 feet above sea level. Glacier County is designated as an Unclassifiable/Attainment area for National Ambient Air Quality Standards (NAAQS) for all criteria pollutants. The Main Line #1 Station is located on a 28-acre site approximately 4.5 miles southeast of Cut Bank along Highway 2.

The area near the facility can be characterized as flat to gently rolling terrain. About 3 to 4 miles north and east of the plant, the terrain drops approximately 400 feet. Rolling terrain is generally present along all other vectors for about 10 kilometers. Cut Bank Creek runs north/south a few miles west of the plant site. The creek bed forms a relatively narrow valley (below the plant site elevation) along this corridor and the elevation drops about 200 feet to the creek bottom. The area surrounding the facility is mainly used for agriculture and livestock grazing. Also, the town of Cut Bank is located 4.5 miles to the northwest of the plant and is located at approximately the same elevation as the plant. The nearest Class I area is Glacier National Park located about 45 miles west of the facility.

The climatology of the area is considered semi-arid. Rainfall is approximately 11 inches per year with the majority of the precipitation occurring in May, June, August, and September. The annual temperature is about 44°F with maximum temperatures occasionally exceeding 100°F. Low temperatures are typical of continental air masses and can be well below 32°F.

### C. Facility Background Information

#### Preconstruction Permit Background

On March 23, 1988, Permit #2428 was approved for MPC to operate six natural gas compressor engines along with the three existing 660-Hp Ingersoll-Rand compressor engines at the. On December 21, 1990, Permit #2428 was altered for the facility to undergo a New Source Review (NSR) - Prevention of Significant Deterioration (PSD) review for previous permitting actions. Through the permitting action, PSD significance levels were triggered for NO<sub>x</sub>, VOCs, and CO. Permit #2428A replaced Permit #2428.

On July 18, 1991, MPC received an alteration to Permit #2428A. The alteration allowed MPC to add three 1,100-Hp compressor engines to the Cut Bank Compressor Station. Offsets for control of existing emissions were calculated as part of the permit alteration. Changes to the facility included installing catalytic converters on the three existing 660-Hp Ingersoll Rand compressor engines. Permit **#2428B** replaced Permit #2428A.

MPC applied for a permit modification to delete the three compressor engines that were previously proposed and to extend the time frame for installing the catalytic converters on the three existing 660-Hp Ingersoll-Rand compressor engines at the Cut Bank compressor station. At the end of this permit action, MPC had CO emissions that exceeded the NSR major source threshold of 250 tons per year. Permit **#2428-03** replaced Permit #2428B.

On February 22, 1998, MPC received a modification to Permit #2428-03. MPC requested that the total hours of operation of the three 660-Hp Ingersoll-Rand compressor engines be limited to 24,495 hours per year and that emissions from minor combustion sources be added to the emission inventory. MPC also requested that the auxiliary electrical generator powered by a diesel-fired engine be limited to 720 hours of operation per year. The limitations on the compressor engines and the auxiliary generator ensured that the facility's emissions would remain below 250 ton/yr of any pollutant so that MPC would not be defined as a major source under the NSR permit program. Permit **#2428-04** replaced Permit #2428-03.

On April 3, 1998, MPC received an alteration to Permit #2428-04. MPC requested that two existing 1,100-Hp Cooper-Superior compressor engines be removed from the permit and two 2,000-Hp Cooper-Superior compressor engines be added to the permit. MPC requested to limit the two new engines to the manufacture's guarantee for NO<sub>x</sub>, CO, and VOC emissions. In addition, MPC requested that the Smart Ash Burner, used to incinerate oily rags, be included in this permit alteration. The end result of the permit action was a decrease in the CO emissions from the facility and minor increases in all other criteria pollutants. MPC remained a minor source under the NSR permit program. Permit **#2428-05** replaced Permit #2428-04.

On February 15, 2001, MPC received a modification to Permit #2428-05 to remove testing requirements for the three 660-Hp Ingersoll-Rand compressor engines, the four 1,100-Hp Cooper superior compressor engines, and the two 2,000-Hp compressor engines. Since MPC had a final Title V Permit (OP2428-00) that required a minimum of semi-annual emission testing for the above described compressor engines, testing requirements of every 4 years were removed from Permit #2428-05. Emission limitations for the compressor engines as provided in Section II.A of the permit remained applicable. Permit **#2428-06** replaced Permit #2428-05.

On August 10, 2001, the Department of Environmental Quality (Department) received a request from MPC to alter Permit #2428-06 for the addition of a 2,370-Hp Caterpillar compressor engine. On October 24, 2001, the application was deemed complete upon submittal of additional information by MPC. The addition of the 2,370-Hp Caterpillar compressor engine did not trigger the NSR program because the potential emissions from the engine are less than the NSR threshold level of 250 tons per year. However, the next permit action at the facility with potential emissions above PSD significance levels may trigger the NSR program. Permit **#2428-07** replaced Permit #2428-06.

On November 23, 2001, MPC notified the Department of a pending merger of MPC with and into Montana Power, L.L.C. (MPC LLC). Due to questions regarding the length of time the new company name would be valid, the Department decided to wait on the name change for the permit. On October 18, 2002, the Department received a request to change the permit from MPC LLC to NorthWestern. This permit action incorporated the name change from MPC LLC to NorthWestern. On December 15, 2002, Permit **#2428-08** replaced Permit #2428-07.

## **Title V Operating Permit Background**

On July 11, 1995, the Department received an operating permit application from MPC for the Main Line #1 Facility. The application was assigned #OP2428. The permit application was deemed administratively complete on August 11, 1995, and the application was deemed technically complete on September 10, 1995. Permit #2428-00 became final and effective on March 11, 2000.

On September 4, 2001, the Department received a request from MPC to modify Permit #OP2428-01 for the addition of a 2,370-Hp Caterpillar Compressor Engine. On October 24, 2001, the application was deemed complete upon submittal of additional information by MPC. In addition, MPC agreed to implement several mitigation measures, as described in the Record of Decision for the CES Silver Bow Generation Project and the measures as imposed at the project sponsors' request pursuant to §75-1-202(5)(b), Montana Code Annotated (MCA). This permit action added the new compressor engine to the permit. MPC is now a major stationary source because the facility's Potential to Emit (PTE) CO is greater than the NSR threshold level of 250 tons per year. The current permit action does not trigger PSD because the current permit action's PTE is less than the NSR threshold level of 250 tons per year. However, the next permit action that has a PTE above PSD significance levels may trigger PSD. In addition, the current permit action adds the mitigated measures that were incorporated into MPC's preconstruction permit (2428-07) into MPC's Title V Operating Permit (OP2428-01). The mitigation measures are enforceable conditions in the permit and shall remain in the permit for the lifetime of the facility. **Permit #OP2428-01** replaced Permit #OP2428-00.

On November 23, 2001, MPC notified the Department of a pending merger of MPC with and into MPC LLC. Due to questions regarding the length of time the new company name would be valid, the Department decided to wait on the name change for the permit. On October 15, 2002, the Department received a request to change the permit from MPC to NorthWestern. The permit action incorporated the name change from MPC to NorthWestern. Permit #OP2428-02 replaced Permit #OP2428-01.

On February 11, 2003, the Department received a letter from NorthWestern notifying the Department of a change in the responsible official for all of NorthWestern's Facilities. The permit action updated the permit to reflect the change in the responsible official. Permit #OP2428-03 replaced Permit #OP2428-02.

### **D. Current Permit Action**

On June 12, 2003, the Department received a letter from NorthWestern notifying the Department of a change in the responsible official for this facility. The current permit action updates the permit to reflect the change in the responsible official. Permit #OP2428-04 replaces Permit #OP2428-03.

### **E. Taking and Damaging Analysis**

HB 311, the Montana Private Property Assessment Act, requires analysis of every proposed state agency administrative rule, policy, permit condition or permit denial, pertaining to an environmental matter, to determine whether the state action constitutes a taking or damaging of private real property that requires compensation under the Montana or U.S. Constitution. As part of issuing an operating permit, the Department is required to complete a Taking and Damaging Checklist. As required by 2-10-101 through 105, MCA, the Department conducted a private property taking and damaging assessment and determined there are no taking or damaging implications. The checklist was completed on July 16, 2003.

## **F. Compliance Designation**

On January 17, 1989, the Department inspected the Main Line #1 facility. The inspection consisted of a facility tour and a look at the flare that had just been installed. The plant was in compliance with the air quality rules and regulations during the time of the inspection.

The Main Line #1 facility was tested early in 1989; however, the Department did not accept the test because the facility was operating at less than 90% of capacity during the test. The follow up test of the facility was rescheduled for May 10, 1990.

On May 17, 1990, the Main Line #1 facility was issued citation number JTC-4 for operating engines (dating back to approximately January 17, 1989) without a valid PSD permit and violating ARM PSD rules. The violations were ongoing.

On June 8, 1990, the Department inspected the Main Line #1 facility. The inspection consisted of review of the equipment on site. The equipment identified during the inspection included the following:

1. Electric refrigeration units - 2 (600-Hp electric compressors)
2. Reboiler glycol unit
3. Manifold building
4. Compressor engines -9, compressor buildings - 4
5. 60,000 gallon propane tanks - 5
6. 40,000 gallon propane tanks - 2
7. Flare
8. Electric air compressor
9. Office building/warehouse

The facility was operating in compliance during the inspection, with the exception of the PSD permitting problem.

On January 9, 1991, the Department and MPC entered into a Consent Decree, Judgement and Order, which were signed by the court to settle a complaint filed by the Department. The order required MPC to obtain a PSD permit from the Department and to pay a \$10,000 penalty.

Early in 1991, MPC performed compliance tests for NO<sub>x</sub>, CO, and VOC at the facility.

On June 5, 1991, the Department inspected the Main Line #1 facility. No problems were noticed and the plant appeared to be in compliance with the applicable air quality regulations and permit conditions.

On March 4, 1992, the Department inspected the Main Line #1 facility. No problems were noticed and the plant appeared to be in compliance with the applicable air quality regulations and permit conditions.

On October 28, 1992, MPC was issued citation number HK-37 for failing to meet the New Source Performance Standards (NSPS) time lines and reporting requirements of 40 CFR Part 60, Subpart KKK, Standards of Performance for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants for the six Superior compressor engines. This citation was withdrawn on November 13, 1992.

Also in October of 1992, MPC tested and demonstrated compliance for the three Ingersoll Rand Compressor Engines at the facility.

On November 17, 1992, MPC was issued citation number HK-38 for failure of the gas plant to meet the NSPS time lines and reporting requirements of 40 CFR, Subpart KKK.

On March 10, 1993, the Department inspected the Main Line #1 facility. No problems were noticed and the plant appeared to be in compliance with the applicable air quality regulations and permit conditions.

On July 18, 1995, the facility was inspected by the Department. No problems were noticed and the plant appeared to be in compliance with the applicable air quality regulations and permit conditions.

During the week of August 19-24, 1996, the nine compressor engines at the Main Line #1 facility were tested and demonstrated compliance with Permit #2428-03.

On September 5, 1996, the facility was inspected by the Department. No problems were noticed and the plant appeared to be in compliance with the applicable air quality regulations and permit conditions.

On July 29, 1997, the facility was inspected by the Department. No problems were noticed and the plant appeared to be in compliance with the applicable air quality regulations and permit conditions.

Furthermore, the facility appears to have maintained compliance with the NSPS reporting requirements since the issuance of citation number HK-38.

On June 30, 1998, the facility was inspected by the Department. No problems were noticed and the plant appeared to be in compliance with the applicable air quality regulations and permit conditions.

On June 10, 1999, the facility was inspected by the Department. No problems were noticed and the plant appeared to be in compliance with the applicable air quality regulations and permit conditions.

On October 21, 1999, the facility was inspected by the Department. No problems were noticed and the plant appeared to be in compliance with the applicable air quality regulations and permit conditions.

On May 15, 2001, the facility was inspected by the Department. No problems were noticed and the plant appeared to be in compliance with the applicable air quality regulations and permit conditions.

On December 18, 2001, the Department completed another inspection of the facility. During the inspection, the facility was in compliance with air quality Permits #2428 and #OP2428 (preconstruction and operating).

On June 18, 2002, the facility was again inspected by the Department. During the inspection, the facility was in compliance with air quality Permits #2428 and #OP2428 (preconstruction and operating). The Department completed a review of all records and reports for the facility since the last full compliance evaluation (May 15, 2001) and no problems were found.

## SECTION II. SUMMARY OF EMISSION UNITS

### A. Facility Process Description

Field gas is piped to the station and is brought up to the required pressure (approximately 540 psi) for the system. This is typically accomplished with two 660-Hp compressor engines, with a third engine available. The liquids plant at the facility separates propane, butane, gasoline, and water from the incoming gas lines before pressurizing the gas for distribution. The field gas is cooled to -30°F in the process recovery area using electrical refrigerating units to condense out hydrocarbons larger than C<sub>2</sub>. The condensed liquid is distilled to separate out propane steam. The final condensate stream is stored as natural gasoline. The plant processes sweet gas exclusively.

Field gas is dehydrated at the field stations. A small amount of the gas is for internal use on site and has the water removed by a dehydrator that operates with a hydrophilic solution of triethylene glycol (TEG). The water is recovered from the TEG by heating the solution to 300°F in the dehydrator reboiler.

The second purpose of the complex is to send the field gas from the complex to the transmission network. In addition, gas from the Aden Line, Carway and Cobb Storage Field is added to the Cut Bank gas for transmission. The pumping of this gas is accomplished with six 1,100-Hp compressors and the 2,370-Hp compressor.

Y-grade gas is brought to the facility for processing through the LPG Plant to extract propane, butane, and natural gasoline. Propane and butane compose about 80% of y-grade gas. The y-grade is stored in a tank on site until the tank is full. Y-grade is processed a few days every few weeks. The propane and butane products collected from the LPG process are stored in tanks on site until they are trucked off site.

There are two propane tanks and two butane tanks, each 60,000 gallons and 250 psi in size. The propane and butane tanks are under pressure and are vented to the flare on site in case of an emergency.

Maximum possible production from the plant was estimated using gas analysis data as shown below.

Propane -  $0.205 \text{ gal/MCF} * 20,000 \text{ MCF/day} * 365 \text{ days/yr} = 1,5000,000 \text{ gal/yr}$

Butane -  $0.043 \text{ gal/MCF (isobutane)} + 0.056 \text{ gal/MCF (N-butane)} * 20,000 \text{ MCF/day} * 365 \text{ day/yr} = 723,000 \text{ gallon/yr}$

The liquid gas is removed from the plant via trucks. The trucks are under pressure and have a capacity of 12,000 gallons each. Trucks coming to load propane or butane gas are first cleaned of residual gas. Butane from the trucks is vented to the flare; propane trucks are vented to the atmosphere because of the high pressure in the trucks. An estimated maximum of 60 butane trucks and 125 propane trucks would be loaded in a year. During loading of the propane and butane gases, the trucks are vented back to the tanks in a closed system.

Natural gasoline collected during the separation process is stored on-site in a 9,000-gallon tank and then trucked off-site. The natural gasoline tank is vertical and at atmospheric pressure. There are no vapor controls during the filling of gas trucks for shipment off-site.

Gas blow downs and purging is the release of process gas from the facility during maintenance and emergency shutdowns. The natural gas in the gas line is released to allow work on the compressor lines. Blow downs are normally associated with starting and stopping of the Cooper-Superior compressors.



## **B. Emission Units and Pollution Control Device Identification**

Currently, the NorthWestern - Main Line #1 compressor station consists of three 660-Hp Ingersoll-Rand compressor engines installed prior to 1968, four 1,100-Hp Cooper-Superior compressor engines installed in 1989, two 2,000-Hp Cooper-Superior compressor engines installed in 1998, one 2,370-Hp Caterpillar compressor engine expected to be installed in 2003, one process heater for gas plant #1, various building heaters, one glycol dehydrator unit, two 600-Hp electric refrigeration units, one fuel gas heater, one auxiliary generator, one emergency shutdown flare, propane truck venting, Non-NSPS process valves, NSPS process valves, gas blowdown, one natural gas storage tank vent, and a Smart Ash Burner. Furthermore, this facility has some in-plant vehicles that contribute to fugitive dust emissions.

NorthWestern has installed DeNO<sub>x</sub> catalytic converters on the three 660-Hp Ingersoll-Rand compressor engines. The four 1,100-Hp Cooper-Superior Compressor Engines, the two 2,000-Hp Cooper Superior Compressor Engines, and the 2,370-Hp Caterpillar Compressor Engine are all equipped with Lean Burn Combustion Design as pollution control. Fugitive emissions will be treated with water and/or a chemical dust suppressant, as necessary to maintain compliance with the reasonable precautions limitations. The remainder of the equipment at the NorthWestern facility has no pollution control equipment.

## **C. Categorically Insignificant Sources/Activities**

The Administrative Rules of Montana (ARM) 17.8.1201(22)(a) defines an insignificant emissions unit as one that emits less than 5 tons per year of any regulated pollutant, has the potential to emit less than 500 pounds per year of lead or any hazardous air pollutant, and is not regulated by any applicable requirement other than a generally applicable requirement. The list of insignificant emitting units at the NorthWestern facility includes the process gas plant heater (Volcano), building heaters, fuel gas heater, propane truck venting, process valves (Non-NSPS), gas blowdown, and the fugitive emissions from in-plant vehicle traffic.

## SECTION III. PERMIT CONDITIONS

### A. Emission Limits and Standards

The emission units at this facility are not subject to any current MACT, NESHAP, or NSPS standards, with the exception of the liquids plant. The liquids plant is subject to NSPS standards. In particular, the liquids plant is subject to 40 CFR 60, Subpart KKK, Standard of Performance for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants. This facility is not subject to PSD regulations; however, the next permit action that has a PTE above PSD significant levels may trigger PSD.

Each of the three 660-Hp Ingersoll-Rand compressor engines shall be limited to 2.91 lb/hr for NO<sub>x</sub>, 4.37 lb/hr for CO, and 1.09 lb/hr for VOC. The NO<sub>x</sub> and CO limits are based on Best Available Control Technology (BACT) determinations that have been established by the Department. The VOC limit is based on manufacturer's data. The hours of operation of the three 660-Hp Ingersoll-Rand compressor engines was limited in order to stay below the NSR permitting threshold. The combined total hours of operation of the three 660-Hp Ingersoll-Rand compressor engines is limited to 24,495 hours per any rolling 12-month time period. The addition of the 2,370-Hp Caterpillar compressor engine has increased the facility's PTE above the NSR permitting threshold but the hourly operational limit on the three 660-Hp Ingersoll-Rand compressor engines can not be removed during the current permit action. NorthWestern is also required to operate and maintain catalytic DeNO<sub>x</sub> silencers on the three 660-Hp Ingersoll-Rand compressor engines.

Each of the four 1,100-Hp Cooper-Superior compressor engines shall be limited to 4.85 lb/hr for NO<sub>x</sub>, 7.28 lb/hr for CO, and 1.82 lb/hr for VOC. The NO<sub>x</sub> and CO limits are based on BACT determinations that have been established by the Department. The VOC limit is based on manufacturer's data.

Each of the two 2,000-Hp Cooper-Superior compressor engines shall be limited to 6.61 lb/hr for NO<sub>x</sub>, 7.05 lb/hr for CO, and 2.65 lb/hr for VOC. The emission limits for NO<sub>x</sub>, CO, and VOC are all based on manufacturers data.

The 2,370-Hp Caterpillar compressor engine shall be limited to 10.45 lb/hr for NO<sub>x</sub>, 15.68 lb/hr for CO, and 5.23 lb/hr for VOC. The emission limits for NO<sub>x</sub>, CO, and VOC are all based on BACT. NorthWestern requested limits based on manufacturer's data; however, because using manufacturer's data did not prevent the facility from exceeding any threshold limit, the Department determined that BACT based emission limits were appropriate.

The auxiliary generator is limited to a maximum of 720 hours of operation during any rolling 12-month time period. This limit was established to help keep the facility below the NSR permitting threshold. The addition of the 2,370-Hp Caterpillar compressor engine has increased the facility's PTE above the NSR permitting threshold but the hourly operational limit on the auxiliary generator can not be removed during the current permit action. Furthermore, the auxiliary generator has been designated as a backup, and the hourly operational limit ensures that it is only used as such.

A limit has also been placed on the type of material that can be incinerated by the Smart Ash Burner. NorthWestern is not allowed to incinerate any material other than oil soaked rags, oil adsorbents, and filters. This material is what NorthWestern applied to burn in the Smart Ash Burner, and was used as the basis for performing the risk assessment.

The last emission limit for the normal operation of the Main Line #1 facility applies to the discharge of fugitive emissions from haul roads, access roads, parking lots, and the general plant property. NorthWestern is required to take reasonable precautions to control emissions of airborne particulate matter.

## **B. Monitoring Requirements**

ARM 17.8.1212(1) requires that all monitoring and analysis procedures or test methods required by any applicable requirement be contained in the operating permit. In addition, when the applicable requirement does not require periodic testing or monitoring, periodic monitoring must be prescribed that is sufficient to yield reliable data from the relevant time period that is representative of the source's compliance with the permit.

The requirement for testing, monitoring, recordkeeping, reporting, and compliance certification sufficient to monitor compliance does not require the permit to impose the same level of rigor for all emissions units. Furthermore, it does not require extensive testing or monitoring to assure compliance with the applicable requirements for emission units that do not have significant potential to violate emission limitations or other requirements under normal operating conditions.

When compliance with the underlying applicable requirement for an insignificant emissions unit is not threatened by lack of regular monitoring and when periodic testing or monitoring is not otherwise required by the applicable requirement, the status quo (**i.e., no monitoring**) will meet the requirements of ARM 17.8.1212(1). Therefore, the permit does not include monitoring for the insignificant emission units. However, the Department may request additional testing to determine compliance with the emission limits and standards. If it is determined through testing, using test methods identified in the Montana Source Test Protocol, that any emissions unit is out of compliance with any applicable requirement, NorthWestern will not be shielded from an enforcement action even if the required monitoring methods listed in the permit indicate compliance with the applicable requirement.

## **C. Test Methods and Procedures**

Preconstruction Permit #2428-08 requires NorthWestern to test the three 660-Hp Ingersoll-Rand compressor engines, the four 1,100-Hp Cooper-Superior compressor engines, and the two 2,000-Hp Cooper-Superior compressor engines for NO<sub>x</sub> and CO, concurrently, to demonstrate compliance with the emission limitations in the permit. It demands that the tests be performed according to the EPA methods in Appendix A of 40 CFR 60. Compliance with the opacity, particulate from fuel combustion, sulfur compounds in fuel (gaseous), and VOC limitations in this permit can be demonstrated by burning pipeline quality natural gas on a continuous basis.

This operating permit contains requirements for semi-annual testing with a portable analyzer for all of the compressor engines. The Department has stipulated that the portable analyzer be capable of achieving performance specifications equivalent to the traditional test methods in 40 CFR 60, Appendix A or shall be capable of meeting the requirements of EPA Conditional Test Method 022 for the "Determination of Nitric Oxide, Nitrogen Dioxide and NO<sub>x</sub> from Stationary Sources by Electrochemical Analyzer." The permittee may use another testing procedure as approved in advance by the Department. All compliance tests must be conducted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106). The permittee will then convert the NO<sub>x</sub> and CO emissions test results from a "ppm" value to a "lb/hr" number. Stack gas flow rates shall be determined using EPA Test Methods in 40 CFR 60, Appendix A in order to monitor compliance with the emissions limitations in the permit.

The Department will use the portable analyzer testing results as a direct measure of compliance. The operating permit may not require testing for all sources if routine monitoring is used to monitor compliance, but the Department has the authority to require testing if deemed necessary to monitor compliance with an emission limit or standard. In addition, the permittee may elect to voluntarily conduct compliance testing to monitor compliance status.

This operating permit contains requirements for performing Method 9 tests as required by the Department. Method 9 tests must be performed in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106). Each observation period must be a minimum of 6 minutes unless any one reading is 20% or greater, then the observation period must be a minimum of 20 minutes or until a violation of the standard has been documented, whichever is a shorter period of time.

There is also a permit condition to perform a Method 5 test, as required by the Department. If the Department requires a Method 5 test, the testing must be done in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

#### **D. Recordkeeping Requirements**

The recordkeeping provisions shall be sufficient to meet the provisions of the monitoring requirements and shall include, as necessary, the installation, use, and maintenance of the monitoring equipment or methods. The following information shall also be provided as necessary: the date the analyses were performed; the place and time of the sampling; the company or entity performing the sampling; the analytical techniques or methods used; the results of such analyses; and the operating conditions at the time of the analyses. Retention of the records of all required monitoring data and support information shall be for a period of at least 5 years from the date of measurement. Support information includes all calibration and maintenance records and copies of all reports required by the operating permit.

#### **E. Reporting Requirements**

NorthWestern is required to submit to the Department, reports of any required monitoring at least every 6 months and to annually certify compliance with the applicable requirements contained in the permit. All deviations from permit requirements must be clearly identified in these reports. All reports must be certified by a responsible official. The permittee is also required to promptly report any deviations from the permit requirements due to upset conditions and the probable cause of the upset condition along with any corrective actions or preventive measures taken.

## SECTION IV. NON-APPLICABLE REQUIREMENT ANALYSIS

Section IV of the operating permit “Non-applicable Requirements” contains the requirements that the Department determined were non-applicable. The following table summarizes the requirements that NorthWestern, as MPC, identified as non-applicable and contains the reasons that the Department did not include these requirements as non-applicable in the permit.

### Requirements not Identified in the Operating Permit

Applicable Requirement	Reason
Sub-Chapter 1 – General Provisions	
ARM 17.8.101 Definitions ARM 17.8.102 Incorporation by Reference - Publication Dates and Availability of Referenced Documents ARM 17.8.103 Incorporation by Reference	These rules consist of either a statement of purpose, applicability statement, regulatory definitions or a statement of incorporation by reference. These types of rules do not have specific requirements associated with them.
ARM 17.8.120 Variance Procedures - Initial Application	This is a procedural rule that has specific requirements that may become relevant to a major source during the permit span.
Sub-Chapter 2 – Ambient Air Quality	
ARM 17.8.201 Definitions ARM 17.8.202 Incorporation by Reference	These rules consist of either a statement of purpose, applicability statement, regulatory definitions or a statement of incorporation by reference. These types of rules do not have specific requirements associated with them.
ARM 17.8.204 Ambient Air Monitoring ARM 17.8.205 Enforceability ARM 17.8.206 Methods and Data ARM 17.8.210 Ambient Air Quality Standard for Sulfur Dioxide ARM 17.8.211 Ambient Air Quality Standard for Nitrogen Dioxide ARM 17.8.212 Ambient Air Quality Standard for Carbon Monoxide ARM 17.8.213 Ambient Air Quality Standard for Ozone ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter ARM 17.8.221 Ambient Air Quality Standard for Visibility ARM 17.8.222 Ambient Air Quality Standard for Lead ARM 17.8.223 Ambient Air Quality Standard for PM-10 ARM 17.8.230 Fluoride in Forage	These rules are always applicable to a major source and may contain specific requirements for compliance. However, these rules have been excluded as an applicable requirement (ARM 17.8.1202).
Sub-Chapter 3 – Emission Standards	
ARM 17.8.322 Sulfur oxide emissions – Sulfur in Fuel	This facility burns both liquid and solid fuel at the facility. Therefore, this rule is applicable to the facility.
ARM 17.8.330 Definitions	This rule consists of either a statement of purpose, applicability statement, regulatory definition or a statement of incorporation by reference. These types of rules do not have specific requirements associated with them.
Sub-Chapter 4 - Stack Heights	
ARM 17.8.401 Definitions	This rule consists of either a statement of purpose, applicability statement, regulatory definition or a statement of incorporation by reference. These types of rules do not have specific requirements associated with them.

ARM 17.8.402 Requirements ARM 17.8.403 Exemptions	These are procedural rules that have specific requirements that may become relevant to a major source during the permit span.
Sub-Chapter 5 - Air Quality Permit Application, Operation and Open Burning Fees	
ARM 17.8.504 Air Quality Permit Application Fees ARM 17.8.514 Air Quality Open Burning Fees ARM 17.8.515 Air Quality Open Burning Fees for Conditional, Emergency, Christmas Tree Waste, and Commercial Film Production Open Burning Permits	These are procedural rules that have specific requirements that may become relevant to a major source during the permit span.
Sub-Chapter 6 - Open Burning	
ARM 17.8.606 Minor Open Burning Requirements ARM 17.8.611 Emergency Open Burning Permits ARM 17.8.612 Conditional Air Quality Open Burning Permits	The following regulations may not be applicable to the source at this time; however, these regulations may become applicable during the life of the permit.
Sub-Chapter 7 – Permit, Construction and Operation of Air Contaminant Sources	
ARM 17.8.740 <i>et seq.</i> Permit, construction and operation of air contaminant sources	The following regulations may not be applicable to the source at this time; however, these regulations may become applicable during the life of the permit.
Sub-Chapter 8 – Prevention of Significant Deterioration	
ARM 17.8.825 Sources Impacting Federal Class 1 Areas – Additional Requirements ARM 17.8.826 Public Participation	These rules do not have specific requirements for major sources because they are requirements for EPA or state and local authorities. Furthermore, these rules can be used as authority to impose specific requirements on a major source.
ARM 17.8.804 Ambient Air Increments	The following regulations may not be applicable to the source at this time; however, these regulations may become applicable during the life of the permit
Sub-Chapter 9 - Permit Requirements for Major Stationary Sources or Major Modifications Located Within Nonattainment Areas	
ARM 17.8.901 Definitions ARM 17.8.902 Incorporation by Reference	These rules consist of either a statement of purpose, applicability statement, regulatory definitions or a statement of incorporation by reference. These types of rules do not have specific requirements associated with them.
ARM 17.8.904 When Air Quality Preconstruction Permit Required ARM 17.8.905 Additional Conditions of Air Quality Preconstruction Permit ARM 17.8.906 Baseline for Determining Credit for Emissions and Air Quality Offsets	These regulations are state regulations, which may not be applicable to the source at this time, however, these regulations may become applicable during the life of the permit.
Sub-Chapter 10 - Preconstruction Permit Requirements for Major Stationary Sources or Major Modifications Located Within Attainment or Unclassified Areas	
ARM 17.8.1001 Definitions ARM 17.8.1002 Incorporation by Reference	These rules consist of either a statement of purpose, applicability statement, regulatory definitions or a statement of incorporation by reference. These types of rules do not have specific requirements associated with them.
ARM 17.8.1004 When Air Quality Preconstruction Permit Required ARM 17.8.1005 Additional Conditions of Air Quality Preconstruction Permit ARM 17.8.1006 Review of Specified Sources for Air Quality Impact ARM 17.8.1007 Baseline for Determining Credit for Emissions and Air Quality Offsets	These regulations may not be applicable to the source at this time, however, these regulations may become applicable during the life of the permit.

Sub-Chapter 11 – Visibility Impact Assessment	
ARM 17.8.1101 Definitions ARM 17.8.1103 Applicability –Visibility Requirements	These rules consist of either a statement of purpose, applicability statement, regulatory definitions or a statement of incorporation by reference. These types of rules do not have specific requirements associated with them.
ARM 17.8.1108 Notification of Permit Application ARM 17.8.1109 Adverse Impact and Federal Land Management	These rules do not have specific requirements for major sources because they are requirements for EPA or state and local authorities. Furthermore, these rules can be used as authority to impose specific requirements on a major source.
Federal Requirements	
40 CFR 50 National Primary and Secondary Ambient Air Quality Standards 40 CFR 51 Requirements for Preparation, Adoption, and Submittal of Implementation Plans 40 CFR 58 Ambient Air Quality Surveillance	These rules do not have specific requirements for major sources because they are requirements for EPA or state and local authorities. Furthermore, these rules can be used as authority to impose specific requirements on a major source.
40 CFR 52 Approval and Promulgation of Implementation Plans 40 CFR 62 Approval and Promulgation of State Plans for Designated Facilities and Pollutants 40 CFR 70 and 71 State Operating Permit Programs and EPA Regulations on Federal Operating Permit Programs	These rules contain requirements for regulatory authorities and not major sources, these rules can be used to impose specific requirements on a major source.
40 CFR 60.13 Monitoring Requirements 40 CFR 60.14 Modification 40 CFR 60.15 Reconstruction	These regulations may not be applicable to the source at this time, however, these regulations may become applicable during the life of the permit.
40 CFR 60, Subpart KKK Standards of Performance for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants	This regulation is applicable to the source (liquids plant) at this time because the activities at this source make it an affected facility.
40 CFR 68 – Chemical Accident Prevention Provisions	This is a federal regulation that provided a stay on this facility type, which is effective until December 22, 1997. A Risk Management Plan is in place for this facility. The plan meets the requirements of 40 CFR 68.95.

## **SECTION V. FUTURE PERMIT CONSIDERATIONS**

### **A. NESHAP/MACT Standards**

National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities (40 CFR Part 63, Subpart HH) and National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage Facilities (40 CFR Part 63, Subpart HHH) was promulgated June 17, 1999. As of the issuance date of Permit #OP2428-04, neither Subpart HH nor Subpart HHH is applicable to the facility because the facility does not meet the definition of a major source as defined in each subpart. However, the facility is potentially subject to 40 CFR Part 63, Subpart ZZZZ, Reciprocating Internal Combustion Engines, once the rule is promulgated.

### **B. NSPS Standards**

As of the issuance date of Permit #OP2428-04, the Department is unaware of any future NSPS Standards that may be promulgated that will affect this facility.

### **C. Risk Management Plan**

As of September 23, 1999, NorthWestern exceeded the minimum threshold quantities for butane, as listed in 40 CFR 68.115 or 40 CFR 68.130. A Risk Management Plan is in place for this facility. The plan meets the requirements of 40 CFR 68.95.